WHAT IS CLAIMED IS:

1. A reproducing apparatus for an optically detectable information recording medium comprising at least a substrate, a recording layer, and a resin layer,

wherein the surface of said recording layer in contact with said resin layer has a Root Mean Square roughness $R\sigma$ of less than 5 nm,

said reproducing apparatus at least comprising:

a turntable for holding said information recording medium;

a motor connected to said turntable for making said turntable move relatively;

a light pickup for converging light on said information recording medium and for receiving reflected light from said information recording medium;

a demodulator for demodulating a signal from said light pickup and for transmitting a demodulated signal to an interface;

a servo controller for generating a focus servo signal to drive said light pickup and a tracking servo signal;

an interface for transmitting said demodulated signal from said demodulator externally; and

a controller for controlling said motor, servo controller, and interface.

2. The reproducing apparatus in accordance with claim 1, wherein said light pickup is at least composed of an objective lens having a numerical aperture of 0.7 to 0.9 and a photo detector.

3. An optically detectable information recording medium at least

comprising:

a substrate;

a recording layer; and

a resin layer,

wherein the surface of said recording layer in contact with said resin layer has a Root Mean Square roughness $R\sigma$ of less than 5 nm, and said substrate and said recording layer is in contact with each other, and the surface of said substrate is formed with micro patterns, and said micro patterns further comprise a pit.

4. The information recording medium in accordance with claim 3, wherein width of said pit is 0.05 μm to 1.0 μm.

5. The information recording medium in accordance with claim 3, wherein said pit is modulated by a modulation signal through the RLL modulation method.

6. An optically detectable information recording medium at least comprising:

a substrate;

a recording layer; and

a resin layer,

wherein the surface of said recording layer in contact with said resin layer has a Root Mean Square roughness $R\sigma$ of less than 5 nm, and said substrate and said recording layer is in contact with each other, and the surface of said substrate is formed with micro patterns, and said micro patterns further comprise a groove and a land.

7. The information recording medium in accordance with claim 6, wherein width of said groove is 0.05 μm to 1.0 μm.